

REMARKS

With the cancellation of claim 2, claims 1 and 3-10 are pending. Claims 1 and 3 have been amended. These amendments are supported at least by the specification in page 10, lines 1-4. Applicants respectfully submit that no new matters have been introduced.

Priority Application

Applicants request that the Examiner acknowledges the receipt of a certified copy of the priority application, which should have been sent to the USPTO by the International Bureau of WIPO.

Claim Rejections -- 35 U.S.C. 103

Applicants respectfully traverse the obviousness rejections of claims 1-10 over Liddell et al (US 5,952,460) alone or in view of Honma et al (US20030032151) or Yano et al (US 20030049806). The cancellation of claim 2 renders its rejection moot.

Liddell discloses a process of recovering polymers of hydroxyalkanoic acid (PHA) “from a suspension which comprises particles of PHA in a liquid which comprises maintaining the suspension at a temperature at which the PHA melts and substantial coalescence of PHA particles occurs thereby at least partly forming a layer of molten PHA and separating the layer of PHA optionally after it cools to form a solid.” See Abstract; claim 1. In Examples 1, 2 and 5, the pH conditions were maintained at pH 7 for 12 hours while the suspension was treated with hydrogen peroxide (column 5, lines 30-35; column 6, lines 2-8; column 7, line 4).

In the present application, claim 1 has been amended to include “**wherein the pH of the aqueous suspension is controlled to be between 8 and 13.**” The pH condition in the claimed process (between 8 and 13) during the treatment with hydrogen peroxide differs from the pH condition (pH 7) in Liddell. The difference in pH results in improved purity in the claimed process. According to Table 1 at page 15 in the specification, when the treatment was done at pH 8 or 10, the purity (>99%) of the 3-hydroxyalkanoic copolymer was better than the purity (97%) of the copolymer when the treatment was performed at pH 7. The improvement in the purity of the copolymer achieved with pH 8 or 10 was unexpected.

Liddell does not teach that controlling pH at between 8 and 13 during the treatment with hydrogen peroxide would improve the purity of the PHA polymer. In fact, Liddell does not

teach that the pH during hydrogen peroxide treatments would affect the copolymer. Liddell merely discloses maintaining the pH at 7 for 12 hours during the hydrogen peroxide treatment.

The Office Action states that references Honma and Yano teach that the microorganism *Aeromonas caviae* is "well known to produce copolymers of 3-polyhydroxyalkanoates." These two references, however, do not disclose that PHA aqueous suspension isolated from microorganism is treated with hydrogen peroxide while pH conditions are controlled. Yano is silent on treating 3-hydroxyalkanoic acid copolymer with hydrogen peroxide. Honma discloses treating 3-hydroxyalkanoic acid copolymer with hydrogen peroxide, but Honma is silent on the pH (paragraphs [0145] and [0150]). Liddell by itself or Liddell in view of Honma or Yano does not teach or suggest purifying 3-hydroxyalkanoic acid copolymer comprising treatment with hydrogen peroxide wherein the pH of the aqueous suspension is controlled to be between 8 and 13.

In summary, the present invention is not obvious over Liddell, or Liddell in view of Honma or Yano. Therefore, Applicants respectfully request the withdrawal of the obviousness rejections of claims 1 and 3-10.

The Examiner is encouraged to contact the undersigned regarding any questions concerning this amendment. In the event that the filing of this paper is deemed not timely, applicants petition for an appropriate extension of time. The Commissioner is authorized to debit Deposit Account No. 11-0600 the petition fee and any other fees that may be required in relation to this paper.

Respectfully submitted,

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